

# Compatibles Update

*New and notable developments from the world of PC work-alikes*

**Ken Greenberg**

*Compatibles Update* keeps tabs on the growing market of personal computers that emulate the IBM standard. The column features news on hardware and software as well as insights into the legal and marketing issues that affect compatibility. *Compatibles Update* also goes behind the headlines and talks to the newsmakers who guide this volatile industry.

## Computers

### *Eagle Flies at XT*

When IBM sues you over routines in your BIOS ROM, prompting a brief halt in production and the first quarterly loss in your company's history, how do you respond?

If you're Eagle Computer, you introduce the Turbo XL, a PC XT compatible with speed to spare. Specifications on the 8086-based desktop machine include 256K RAM expandable to 512K, a 10MB hard disk, a single 5¼-inch, half-height floppy disk drive, an IBM-style detachable keyboard, and five expansion slots that are spaced a full inch apart. MS-DOS 2.11 and BASICA are bundled with the Turbo XL, and options include a 12-inch monochrome or a 13-inch RGB monitor. The Turbo XL replaces the Eagle 1600, also an 8086-based machine.

The new Eagle computer comes with a gearbox of sorts. With the flick of a switch on the front of the system unit you can accelerate from a 4.77 MHz clock speed—standard for 8088-based machines—to an 8 MHz rate that makes better use of the 8086's processing power. Shifting



**The Eagle Turbo XL,  
a two-speed PC compatible**

into high can be done while a program is running. Eagle claims that this feature makes the Turbo XL 25 to 50 percent faster than the PC XT but affects PC compatibility only slightly. Certain games and some copy-protected software are finicky about timing, according to Eagle spokesperson Ursula Herrick.

Eagle is hoping that the Turbo XL's speed will help it carve out a niche as a file server in the EagleNet local area network. The company is also reportedly negotiating to make the Turbo XL a software develop-

ment tool, principally for a new multiuser operating system. Herrick declined to give details about that system but said that it was not a variant of the IBM PC/IX or Microsoft XENIX versions of UNIX.

Release of the Turbo XL was delayed for roughly one month while the computer manufacturer, based in Los Gatos, California, updated the BIOS ROM for its compatibles. That delay, combined with the recent dent in the company's earnings, prompted a round of price cuts. Eagle trimmed \$300 from the price of its PC Plus 1, PC Plus 2, Spirit portable, and Spirit XL hard disk portable computers.



### A Graphic Challenge

A couple of Atari alumni and a former Intel engineer have teamed up to produce the Mindset Personal Computer, a portable PC compatible replete with vivid, high-speed color graphics.

The Mindset is the work of Roger Badertscher and Bruce Irvine, both formerly of Atari, and former Intel designer Gary Wood. The 22-pound machine, powered by the Intel 80186 microprocessor, includes MS-DOS 2.00, 64K RAM upgradable to 256K RAM, two ROM cartridge ports and up to 720K of disk storage with two 5¼-inch disk drives, two high-speed graphics coprocessors, and a proprietary ROM that includes graphics calls and commands. Each graphics chip contains more than 25,000 transistors, comparable to chips in CAD/CAM systems. The graphics chips were developed by VLSI Technologies at a reported cost of \$200,000.

The \$2400 list price of the fully configured system does not include a color monitor. Maximum resolution on an optional high-resolution monitor is 640 by 400 pixels for 2 colors or 320 by 200 pixels for 16 colors (selected from 512 available colors). Graphics are bit-mapped only. The Mindset can be used to create videotext images and supports stereo sound generation.

PC compatibility is a bit of a mystery. Mindset's Chris Berg cheerfully acknowledged that the Mindset cannot run Microsoft's *Flight Simulator*, the usual litmus test of compatibility since the program makes direct calls to the ROM. "We don't want to compromise our graphics for programs with inferior graphics capability,"



The Mindset's unconventional design has won plaudits and a place in New York's Museum of Modern Art.

Berg explained. Other differences are that function keys stretch across the top of the keyboard and the Mindset lacks a numeric keypad. The computer can accept a mouse and a joystick.

In a handout on the computer, Mindset Corporation addresses the IBM compatibility of its ROM. The company claims that two elements of its ROM BIOS—entry points and entry routines—either are PC compatible or emulate the PC's ROM. Hence the claim that the machine can read and write IBM-formatted disks.

The Mindset's stacked attaché-case look has proven a hit with New York's Museum of Modern Art. Citing the "quality and historical significance of its design," curator Stuart Johnson selected the computer for inclusion in the museum's Architecture and Design Collection. The design firm GVO collaborated with Mindset engineers in fashioning the computer's exterior. The Mindset joins Grid's Compass and some 2000 other household items in the museum's collection. For more information contact Mindset Corporation, 671 N. Mary Ave., Sunnyvale, CA 94086, 408/737-8555.

### Direct Inc. Touts Compatibility, Mainframe Links

Targeting the lucrative Fortune 1000 market, Direct Inc. has unveiled its Integrated Personal Computer (IPC), a PC compatible that features micro-to-mainframe, multihost communications.

Direct is promoting the IPC as a boon to corporations that require both a stand-alone microcomputer and a work station capable of functioning as a terminal for IBM, Digital Equipment Corporation (DEC), and Hewlett-Packard (HP) host computers. Using up to three optional boards and software, the IPC's IBM terminal emulations include the 3278-2, 3279-2, and 3279-3 (color) coaxial; 3270, 3274, and 3780 bisync; and 3270 and 3770 SNA protocols. HP 2622 and DEC VT100 terminal emulation boards and software are also available. In addition, the IPC's multihosting feature permits